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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Schneider, Joseph C.
Serial No.	:	10/711,102
Filed	:	August 23, 2004
For	:	MULTI-POSITION HEAD PLASMA TORCH
Group Art No.	:	3742
Examiner	:	Mark H. Paschall

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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Date: November 1, 2006

/Robyn L. Templin/
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PRE-APPEAL BREIF REQUEST FOR REVIEW

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. The request is being filed with a Notice of Appeal. The review is requested for the reasons set forth hereinafter.

In the Claims

1. (Previously Presented) A plasma cutting torch comprising:

a torch body having a handle which extends from a first end to a second end, the first end being fixed with respect to the second end; and

a torch head having a restricted pivotable connection to the torch body and configured to generate a cutting arc at a plurality of angles relative to the torch body.

2. (Original) The plasma cutting torch of claim 1 wherein the restricted pivotable connection includes an infinitely variable connection limited to two axes.

3. (Original) The plasma cutting torch of claim 1 wherein the restricted pivotable connection includes a plurality of predefined set points.

4. (Original) The plasma cutting torch of claim 3 further comprising an index mechanism disposed between the torch body and the torch head and constructed to indicate position of the torch head relative to the torch body at each predefined set point.

5. (Original) The plasma cutting torch of claim 3 wherein the torch head is pivotable about no more than two axes.

6. (Original) The plasma cutting torch of claim 1 wherein the torch head pivots from a position generally aligned with an axis of the torch body to a position generally transverse to the axis of torch body.

7. (Original) The plasma cutting torch of claim 1 wherein the torch head is pivotable from approximately 75 degrees through to 180 degrees.

8. (Original) The plasma cutting torch of claim 1 further comprising an electrode disposed within the torch head.

9. (Original) The plasma cutting torch of claim 8 further comprising a cup removably attached to the torch head and constructed to center the electrode therein.

10. (Original) A plasma cutting assembly comprising:
a power source;
a plasma torch electrically connectable to the power source; and
a multi-position head ratchetably connected to the plasma torch.

11. (Original) The plasma cutting assembly of claim 10 further comprising an electrode positioned in the multi-position head and in electrical communication with the power source when the plasma torch is connected thereto.

12. (Original) The plasma cutting assembly of claim 10 further comprising a hinge connecting the multi-position head and the plasma torch.

13. (Original) The plasma cutting assembly of claim 12 further comprising a ratchet mechanism constructed to secure the multi-position head at predetermined positions relative to the plasma torch.

14. (Original) The plasma cutting assembly of claim 13 wherein the ratchet mechanism provides restricted ratchetable rotation of the multi-position head from 90 degrees relative to the plasma torch, 135 degrees relative to the plasma torch, 170 degrees relative to the plasma torch, and 180 degrees relative to the plasma torch.

15. (Original) The plasma cutting assembly of claim 10 wherein the plasma torch and multi-position head are in a common plane through a range of rotation of the multi-position head.

16. (Original) The plasma cutting assembly of claim 10 further comprising a cap connected to an end of the multi-position head generally opposite an end of the multi-position head connected to the torch and constructed to removably secure an electrode in the multi-position head.

17. (Previously Presented) A plasma torch comprising:
a handle portion and a work tip portion; and

means for providing restricted adjustment of a position of the work tip portion relative to the handle portion when the work tip portion is connected to the handle portion wherein the restricted adjustment limits rotation of the work tip portion relative to the handle portion along two axes.

18. (Original) The plasma torch of claim 17 further comprising a locking assembly constructed to fix the means for providing restricted adjustment thereby fixing a position of the work tip portion relative to the handle portion at a plurality of predetermined positions.

19. (Original) The plasma torch of claim 17 further comprising an electrode disposed in the work tip portion of plasma torch and electrically connected to a power source through a plurality of work tip positions.

20. (Original) The plasma torch of claim 17 wherein the plasma torch is any one of a contact start plasma torch, a high frequency start plasma torch, and a high voltage start plasma torch.

21. (Original) The plasma torch of claim 17 wherein the work tip portion has a range of motion between generally aligned with an axis of the handle portion and generally transverse to the handle portion.

22. (Original) The plasma torch of claim 17 wherein the means for providing restricted adjustment is at least one of a hinge joint, a ball and socket joint, and a pin joint.

23. (Cancelled)

24. (Original) The plasma torch of claim 17 wherein the means for providing restricted adjustment includes adjustment from one predefined position to another predefined position.

REMARKS

Claims 1-22 and 24 are pending in the present application. The Examiner has previously rejected claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin et al. (USP 6,380,508) in view of New et al. (USP 5,916,465). The Examiner has also rejected claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over New et al. and Stuart et al. (USP 5,338,917). The Examiner has further rejected claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin et al. in view of Stuart et al.

In the Office Action dated November 16, 2005, the Examiner had rejected claims 1-24 under §103(a) as being unpatentable over Sorkin et al. in view of New et al. Responsive thereto, Applicant submitted amendments and remarks on February 16, 2006 to overcome these rejections. Regarding this response, the Examiner stated that "Applicant's arguments filed 2-16-2006 have been fully considered but they are not persuasive." *Office Action, May 3, 2006, p. 3.* Despite this dismissal of Applicant's arguments and amendments, the Examiner did not specifically state in the Final Office Action of May 3, 2006, what claims stood rejected under the combination of Sorkin et al. and New et al. As such, Applicant requested clarification on this matter in the reply to the Final Office Action filed on June 23, 2006. In the Advisory Action dated October 20, 2006, the Examiner did not address Applicant's request for clarification as to what, if any, claims stood rejected under the combination of Sorkin et al. and New et al., and merely stated that "claims are unpatentable for the same reasons set forth in the final rejection." *Advisory Action*, October 20, 2006, p. 2. As such, Applicant still remains unclear as to the claims currently rejected under Sorkin et al. and New et al. and Applicant again respectfully requests a clarification of the rejected claims under the cited references.

The Examiner has also rejected claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over New et al. (USP 5,916,465) and Stuart et al. (USP 5,338,917). Applicant respectfully disagrees that the art of record supports a 35 U.S.C. §103(a) rejection of the present claims. The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *MPEP §2142.* To establish a prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings; there must be a reasonable expectation of success; and the prior art reference (or references when combined) must teach or suggest all the claim limitations. *MPEP §2143.* As will be shown below, the Examiner has failed to meet any of the three requirements for establishing a prima facie case of obviousness.

The Examiner has combined the New et al. reference with the Stuart et al. reference, saying that the combination thereof renders the current claims obvious. The Examiner relies upon New et al. for "teaching a pivotable torch head in a TIG, plasma, torch." *Office Action, May 3, 2006, p. 3.* The Examiner cites Stuart et al. for "evidencing that a MIG torch, which does produce a plasma, can have an integral handle 64, which is attached to the welding head 71 via pivoting means enclosed in 70." *Id. at 2.* Numerous factors point to the conclusion that there is no motivation for combining New et al. and Stuart et al. as done so by the Examiner, and that additionally, the combination of the references would not have a likelihood of success, at least not of the claimed invention.

First, were the New et al. reference to be modified with an integral handle as disclosed in Stuart, the torch head in New et al. would no longer be pivotable, rendering the teachings of New et al. ineffective. Referring to Fig. 4, New et al. states that "manual rotation of the front and rear handle portions 52, 54 respectively, relative to one another in one direction (e.g., rotating the rear handle section clockwise, aft looking forward, relative to the front handle section) causes the body 12 to move axially forward in the swivel housing 30 so that the forward end of the body compresses the spring mechanism 104 into substantial pressure engagement with the swivel seat 102 to lock the swivel member 74 in position due to friction between the swivel end and the socket and seat." *New et al., Col. 3, ln. 62 to col. 4, ln. 4.* That is, New et al. requires rotation between a first end of the handle portion and a second end of the handle portion to allow loosening and tightening of the pivotable connection and to allow for rotation of the torch head. Applying an integral handle, as taught in Stuart et al., to the structure of New et al. would prevent such rotation between the first and second portions of the handle and thus would not allow for pivoting of the torch head to occur. As such, combining of the two references would render the benefits set forth in New et al. ineffectual. Were the opposite approach to be taken, there still would be no motivation to apply the teachings of New et al. to modify Stuart et al. Such a combination would only result in a welding torch containing two separate mechanisms for pivoting and rotating a torch head. Such a duplicative configuration would be deemed wholly unnecessary. Thus, it cannot be concluded that one skilled in the art would be motivated to combine the two references in either manner.

Furthermore, the combination of the Stuart et al. reference with New et al. would result in a configuration that is far different than that which is called for in the current claims. That is, the welding gun disclosed in Stuart et al. is for use in a MIG welding system, not a plasma cutting system as is called for in the current claims, and could not logically be combined with New et al

so as to teach the current invention. By comparing the welding gun shown in Fig. 3 of Stuart et al. to the plasma torch of Fig. 2 in the current invention, it is clear that the welding gun taught in Stuart et al. is wholly unsuitable for use in a plasma cutting operation. It is illogical to conclude, as the Examiner has done here, that one of ordinary skill in the art would find it obvious to combine a MIG welding gun, as disclosed in Stuart et al., with the disclosure of New et al. to teach the multi-position head plasma torch of the current invention. A brief review of the Background sections in Stuart et al. and the current Application clearly points out the many differences between MIG welding and plasma cutting, and such is evidence of why one skilled in the art would not be motivated to adapt the elements of a MIG welding gun for use with a plasma torch. *See Stuart et al., Col. 1, lns. 10-20; see also Application, ¶3.*

In the current invention, a torch head is shown in detail in Fig. 2. In plasma cutting, an air flow is commonly used to help start the arc and provide plasma gas to the torch. Positioned within a head portion of the plasma torch, is a movable or fixed electrode or consumable that serves as a cathode and a fixed or moveable nozzle or tip that serves an anode. The air flow through the torch head is used to force a separation of the electrode and tip to create an arc. Comparing the structural requirements of a torch head configured for plasma cutting to the torch head disclosed and shown in Fig. 3 of Stuart et al. makes it clear that it is illogical to suggest that the pivotable conductor tube assembly 71 disclosed therein would be adaptable for use in a plasma cutting operation. *See Stuart et al., Col. 6, lns. 7-10.* The Examiner is attempting to stretch what is being disclosed in the prior art to encompass that which is set forth in the current invention. Therefore, for all the reasons set forth above, Applicant respectfully believes that there is no suggestion or motivation to combine the cited references in the manner done so by the Examiner, nor is there a reasonable expectation of success to come up with the present invention.

The combination of New et al. and Stuart et al. also fails to teach or suggest all of the elements of the present claims. Claim 1 calls for, in part, a plasma cutting torch having a body with a first end fixed with respect to a second end, and a head having a restricted pivotable connection to the body for generating a cutting arc at a plurality of angles. The references fail to disclose a plasma torch having a body with a first end fixed with respect to a second end. New et al. discloses a first end of a handle portion and a second end of a handle portion, between which rotation is allowed to loosen and tightening a pivotable connection. Stuart et al. does disclose the use of an integral handle, however, this integral handle is part of a MIG welding gun, not a plasma torch. Therefore, neither reference specifically discloses a plasma torch having a handle

with a first end fixed with respect to a second end. As such, Applicant believes claim 1, and the claims that depend therefrom, are patentably distinct over the art of record.

Claim 10 calls for, in part, a plasma cutting assembly having a plasma torch and a multi-position head ratchetably connected to the plasma torch. Applicant does not necessarily disagree that New et al. and Stuart et al. teach a torch having a head portion pivotably connected to a handle portion; however, that is not what is called for in claim 10. Both references disclose a torch having a pivotal head assembly wherein a ball-and-socket type connection is used. When the ball and socket connection is loosened, the pivotable member is allowed to move freely and unrestricted in any direction and to any degree. There is no ratchetable connection between the head and the plasma torch as called for in claim 10. As such, Applicant believes claim 10, and the claims that depend therefrom, are patentably distinct over the art of record.

Claim 17 calls for a plasma torch having means for providing restricted adjustment of a position of a work tip portion relative to a handle portion when the work tip portion is connected to the handle portion wherein the restricted adjustment limits rotation of the work tip portion relative to the handle portion along two axes. New et al. states that "[t]he swivel member 74 is rotatable 360 degrees in the socket 38 about the central axis A4 (FIG. 2) of the housing 30, and is also swivelable 30 degrees in the socket to position the head 70 of the torch 10 in a selected angular position relative to the handle 50 as shown in FIG. 5". *New et al., Col. 3, lns. 29-34.* Stuart et al. states that conductor tube 72 is allowed to rotate 360 degrees about the centerline of the handle 64 and to articulate approximately 15 degrees or more in a conical area. *Stuart et al., Col. 9, lns. 11-22.* That is, when loosened, the connection assembly of both New et al. and Stuart et al. allow for unrestricted movement of the head portion of the torch along all three axes. This is not what is called for in claim 17, which calls for rotation of the work tip along <u>two axes</u>. As such, Applicant believes claim 17, and the claims that depend therefrom, are patentably distinct over the art of record.

The Examiner also rejected claims 1-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over Sorkin et al. in view of Stuart et al. The Examiner stated that "one of ordinary skill in torch systems would have found it obvious to modify the Sorkin et al system" with the teachings of Stuart et al. for "clearly teaching that a pivotable head on a MIG torch can pivot 15 degrees from an axis, and can also rotate 360 degrees around such an axis." *Office Action, May 3, 2006, p. 3.* Similar to above, Applicant believes that there is no suggestion or motivation to combine Sorkin et al. and Stuart et al. to come up with the current invention. The welding gun disclosed in Stuart et al. is for use in a MIG welding system and does <u>not</u> teach or suggest a

plasma torch as is called for in the current claims. Furthermore, were the two references to be combined, there would not be a likelihood of success, at least not of the claimed invention, as the teaching of a MIG welding gun in Stuart et al. would not be compatible with the plasma torch disclosed in Sorkin et al., as has been set forth in detail above. The combination of the Examiner's references in no way discloses a configuration as set forth in the current claims and cannot be said to teach or suggest a multi-position head plasma torch.

Additionally, the combination of Sorkin et al. and Stuart et al. fails to teach or suggest all of the elements of the present claims. As shown in the figures of Sorkin, the torch includes a pivot 28 which is received in a pivot point 15 formed in a pocket 12 surrounded by the workpiece 10. During use, the pivot 28 and pivot point 15 generally cooperate to allow an operator, upon rotation of the torch handle (with the torch head secured thereto), to sever a tendon used in post-tension construction. Sorkin et al. in no way teaches the claimed plasma torch with a pivoting head. The head of the torch of Sorkin must pivot with the handle thereof. Furthermore, as stated earlier, Stuart et al. fails to teach or suggest the elements of the current claims as the disclosure therein is directed to a MIG welding gun, not a plasma torch. Stuart et al. also fails to disclose a pivotable head that is ratchetable or one that is restricted to two axes of motion. As such, Applicant believes claims 1, 10, and 17, and the claims that depend therefrom, are patentably distinct over the art of record.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-22 and 24.

Applicant appreciates the Examiner's consideration of these Remarks and invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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